REMEDIAL ACTION COMPLETION REPORT – ENGINEERED BARRIER
INTERSTATE POLLUTION CONTROL SITE
ROCKFORD, ILLINOIS

61UN.05046.00.0010
September 15, 2006

Submitted by:

SECOR

SECOR International Incorporated
400 Bruns Lane
Springfield, IL 62702

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CERTIFICATION

To the best of my knowledge, after thorough investigation, I certify that the information contained in or accompanying this submission is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Thomas Lupo

Date: 11/21/06

PROFESSIONAL ENGINEER CERTIFICATION

I certify that the design and construction of the Engineered Barrier at the Interstate Pollution Control/Roto-Rooter Superfund Site, has been completed as specified in the Consent Decree and that the information attested to in this report is true and accurate.

(seal)

Kenneth G. Smith

Date: 11/27/2006

Exp. Date: 11/30/2007

SECTION 1.0
INTRODUCTION

SECOR International Incorporated (SECOR), on behalf of the Interstate Pollution Control/Roto Rooter Superfund Site Remedial Design/Remedial Action Steering Committee (Group) announces the successful execution of the Remedial Action - Engineered Barrier requirements of the Record of Decision (ROD) and Scope of Work (SOW) associated with the Interstate Pollution Control/Roto Rooter Site (Site) located in Rockford, Illinois (CERCLIS ID #ILT180011975), as stipulated in the Consent Decree (CD) between the State of Illinois and the Group (reference Case No. 05C50138 filed July 27, 2005, U.S. District Court for the Northern District of Illinois). The Remedial Action – Engineered Barrier was completed consistent with the elements detailed in the Remedial Design/ Remedial Action Work Plan (Work Plan).

SECTION 2.0
SITE CONDITION AND BACKGROUND

SITE DESCRIPTION

The IPC Site is located in Winnebago County, Illinois in an industrial area in the south central part of Rockford, northwest of Magnolia and Peoples Avenue. The approximate 2.8-acre Site measures approximately 850 feet along the north boundary line and 270 feet along the east boundary line. The Site is shown in Figure 1.

BACKGROUND INFORMATION

The Site is currently unused property zoned for general industrial use only. The property is the subject of a Declaration of Restriction filed with the Winnebago County Recorder on March 19, 1995. The Site is located in an area that has been heavily industrialized since the early twentieth century. The closest residential area is located approximately 600 feet to the north.

The Site operated as a hazardous waste storage facility from 1974 to 1982. Typical wastes stored on the Site included cyanide waste from electro-platers, paint sludges and residues, industrial solvents, and waste oils from industry and service stations. The Site has reportedly had a long history of poor waste management practices including an unlined impoundment, leaking tanks, leaking drums and on one occasion, mixing incompatible wastes.

In March 1979, the National Enforcement Investigations Center (NEIC) collected samples from ponded liquids and surface soils on the Site. Heavy metals and volatile organic compounds were detected in significant concentrations. Cyanide was detected in every sample. As a result of the investigation, a cleanup was ordered by the U.S. Environmental Protection Agency (USEPA) in December 1979. The cleanup included removal of 1200 drums of liquid waste and approximately 180 cubic yards of contaminated soils. In addition, a lagoon approximately 50 feet wide and 200 feet long, containing hazardous waste, underwent partial remediation.

The Illinois Environmental Protection Agency (IEPA), USEPA and other agencies began to investigate and evaluate the Site conditions in 1979. In 1985, USEPA conducted a preliminary

field investigation and evaluated the Site under the Hazard Ranking System (HRS). The Site received an HRS score of 46.01 and was placed on the National Priorities List (NPL) on June 24, 1988.

On August 6, 1991, the USEPA issued a Unilateral Administrative Order (UAO) to IPC and a group of Potentially Responsible Parties (PRPs) to conduct additional removal activities at the Site. Beginning in 1992, the PRPs, in response to the UAO, fenced the Site, removed over 1,400 tons of solid and hazardous waste (including visibly stained soils), demolished and removed all aboveground and underground tanks and significant physical structures, installed a clay layer over the former impoundment, and substantially cleared the Site. These removal actions eliminated more than 2.9 million pounds of soils and hazardous waste.

This Remedial Action Completion Report – Engineered Barrier (Report) is a result of implementation of the remedial action alternative for the Site from the Remedial Investigation/Feasibility Study (RI/FS) conducted in 1997 and the aforementioned CD. The remedial action was to construct an engineered barrier to prevent direct contact with Site contaminants, serve as an impermeable barrier to limit exposure to soil vapors, prevent fugitive dust emissions, and reduce storm water infiltration through Site fill, thereby reducing potential releases to groundwater.

The engineered barrier (Barrier) would be comprised of a flexible membrane liner with an overlying asphalt surface. From top to bottom, it would consist of a nominal eight-inch thick asphalt pavement, underlain by a nominal 6-inch thick granular base course, a geotextile fabric, another nominal 6-inch granular base course, a 40-mil flexible membrane liner (FML), and a variable thickness grading layer.

The Site would be cleared prior to installing the engineered barrier. The barrier would have a crown and be sloped to promote sheet runoff from the asphalt surface. The underlying FML would also be sloped to promote drainage of any water that passes through the asphalt surface. Drainage routes would be provided between the asphalt surface and FML along the Site perimeter to minimize the accumulation of moisture between the two barriers.

DESIGN PROCESS

The general design of the Remedial Action – Engineered Barrier, as highlighted in the SOW, included the following:

- Clearing and grubbing the Site.
- Regrading the Site for the installation of an engineered barrier.
- Construction of an engineered barrier including:
  - Placement of a high density polyethylene (HDPE) FML with a nominal thickness of 40-mil.
  - Placement of a geotextile layer to provide protection between the FML and overlaying aggregate drainage layer.
  - Drainage layer consisting of coarse aggregate at a nominal thickness of 12-in. to support drainage of surface water that could penetrate the asphalt cap.
  - Bituminous cement (asphalt) layer at a nominal thickness of eight inches.
- Adequate collection system for stormwater runoff.
- Removal of six Site groundwater monitoring wells (GWMWs) and installation of six new GWMWs at select locations on the Site.
- The Barrier would be designed in accordance with the CD and IEPA regulations.

CONSTRUCTION

Site Preparation / Well Abandonment

Site preparation activities consisted of clearing and grubbing, bringing in borrow material, and grading and compacting to achieve sufficient grade to promote adequate runoff of precipitation. The Site preparation activities took place between April 12, 2006 and July 7, 2006. Trees and brush were cleared and chipped with the wood chips evenly spread over the Site. Drums containing personal protective equipment (PPE) stored on-Site were emptied; the PPE disposed of off-Site as solid waste. Drums of investigation-derived waste (IDW), also stored on-Site, were emptied and the contents evenly spread over the Site below the grading layer. The emptied drums were rinsed and recycled off-Site as scrap metal. Existing debris, consisting of piles of concrete, miscellaneous construction debris and other solid material that was on the

ground surface was buried on the Site below the grading layer. Fill material was proof-rolled to provide an adequate surface for the FML.

The six on-Site groundwater monitoring wells were abandoned on May 2, 2006 in accordance with Illinois Department of Public Health regulations 77 Ill. Adm. Code 920.120.

Warning signs around the Site perimeter were supplemented by signs discouraging trespassers and noticing a prohibition of unauthorized excavation.

Monitoring Well Installation

Six wells were installed on the Site and two wells will be installed down gradient of the Site. All eight groundwater monitoring wells will be in the shallow aquifer.

Three of the six Site wells are on the up gradient side of the Site and three were installed on the down gradient side. Wells were installed in accordance with Illinois Department of Public Health regulations 77 Ill. Adm. Code 920.170.

Details regarding monitoring well location and construction are found in the Groundwater Monitoring Work Plan.

Flexible Membrane Liner

The FML was installed by Clean Air & Water, a GSE Lining Technology, Inc. (the liner manufacturer) licensed contractor. The FML installation occurred between July 17 and July 22, 2006 and was performed per the technical standards specified.

Granular Base Material / Geotextile Fabric

A subsurface drainage layer was installed between the FML and the Asphalt layer. This layer would collect any infiltration from the surface and direct it to discharge points on the border of the Site. This layer consisted of two course material layers and a geotextile fabric.

The bottom course layer, a nominal 6-inch thick layer of granular base material (CA-16 or "ag lime"), was placed over the FML. A geotextile fabric was then installed overtop of this 6-inch layer to protect the FML from the coarser 6-inch base coarse (CA-6) placed on the geotextile. This installation occurred between July 24 and August 4, 2006. The geotextile fabric was supplied by GSE Lining Technology, Inc. as per the technical standards specified and installed by Rockford Blacktop Inc.

Drainage System

Course aggregate (CA-1) was installed along the boundaries of the Site on August 9 and 10, 2006. Water that flows off of the Barrier is directed by this course aggregate layer to the railroad right-of-way drainage on the south side of the Site and to the storm sewer along the east side of the Site.

Asphalt Pavement

Eight inches of asphalt was installed as the upper-most layer of the Barrier between August 7 and August 14, 2006. It was designed and constructed in accordance with appropriate standards provided by the Illinois Department of Transportation (IDOT). The pavement was installed in three lifts consisting of two - 3" base course lifts on top of the granular layer followed by one - 2" finish lift. As the asphalt layer was installed and compacted, core samples were taken to determine verify that the specified thickness was maintained. The pavement was installed by Rockford Blacktop Inc.

The total estimated Barrier cover area is approximately 2.75 acres.

SECTION 3.0
QUALITY ASSURANCE / QUALITY CONTROL

Mr. J. Stephen Van Hook of Patrick Engineering Inc. (Patrick) was the Quality Assurance Manager (QAM) assigned to the project. Quality assurance/quality control (QA/QC) for Site preparation activities were provided by a full-time Resident Engineer on the Site. The following QA/QC measures were followed during the remedial action.

FLEXIBLE MEMBRANE LINER

The FML manufacturer and installer conformed to all terms and requirements of the manufacturer's quality assurance program. QA/QC for installation of the FML was conducted by Patrick. Field and laboratory measurements and sampling requirements are included in Appendix B.

Non-destructive testing was performed as the FML seaming progressed. Vacuum Testing was performed in accordance with ASTM D 5641, Standard Practice for FML Seam Evaluation by Vacuum Chamber. Air Pressure Testing was performed in accordance with ASTM D 5820, Standard Practice for Pressurized Air Channel Evaluation of Dual Seamed FMLs.

Destructive Testing was also performed. Destructive test samples were collected at a frequency of one per every 1500 lineal feet of seam length. Destructive testing was performed in accordance with ASTM D 6392, Standard Test Method for Determining the Integrity of Non-Reinforced FML Seams Produced Using Thermo-Fusion Methods.

GRANULAR BASE MATERIAL

QA/QC for installation of the granular base material was conducted by Patrick. Field and laboratory measurements and sampling requirements are included in Appendix B. The fill material was spread over the full area of the cross-section to a maximum layer thickness of six inches. During placing and compacting of the fill material, the optimum moisture content was maintained by wetting or drying as required. Fill material was compacted to a minimum density

of 90 percent Standard Proctor and was verified by nuclear density testing in accordance with ASTM D2922. All holes, ruts, soft places, and other defects were corrected.

Fill material was obtained from approved borrow areas and was free from peat, frozen material, brush, trees, roots over 2 inches in diameter and rocks over 6 inches in greatest diameter.

ASPHALT PAVEMENT

QA/QC requirements for the asphalt installation were included in specification section 02743 – Bituminous Concrete Pavement of the Construction Specifications. Field and laboratory measurements and sampling requirements are included in project specifications. Three core samples were taken after the first two lifts. These samples verified that the asphalt thickness following compaction was 6 inches. The core sample locations are shown on Figure 2.

SECTION 4.0
OPERATION AND MAINTENANCE ACTIVITIES

OPERATION AND MAINTENANCE PLAN

The Operation and Maintenance (O&M) Plan is intended to provide the basis for insuring the continued integrity of the Barrier, including its subsurface drainage system, and to prevent the infiltration of precipitation through the Barrier and into the subsurface of the Site. The O&M Plan describes the periodic activities required to identify and counteract any deterioration of the components of the Barrier through normal aging processes or from unforeseen events.

The Site will be inspected on a quarterly basis to document the integrity of the existing Site security fence and engineered barrier, the effectiveness of the institutional controls, and the condition of the monitoring well system. On a yearly basis, the pavement will be inspected and damaged areas will be repaired. Cracks in the pavement will be filled and the entire asphalt surface will be sealed according to the schedule provided below. Results of the inspections will be documented in inspection reports submitted to the Illinois EPA. The inspections will be performed by an individual experienced in inspection services.

INSPECTIONS

Asphalt Cover

The asphalt cover will be inspected annually. The inspector will note any cracks deeper than two inches or longer than two feet, any areas of crumbling or damaged asphalt, any standing water or discolored areas that might indicate standing water and any other signs of deterioration of the surface. A report will be prepared providing photographs and a description of any damaged or deteriorated areas found and will provide a plan for making needed repairs.

Subsurface Drainage

The discharge points of the drainage system will be inspected quarterly for any signs that the system may be plugged. The perimeter of the property will be inspected and any indications of water seeping from beneath the Barrier will be noted.

Repairs will be in accordance with Illinois Department of Transportation (IDOT) Standard Specifications for Road and Bridge Construction, Section 400.

Site Security

The fence around the Site will be inspected quarterly and any damage sections will be noted. Also the warning signs will be inspected for damage. Any signs of trespass will be noted.

Schedule

Site inspections will be made at approximately the same times every year. An annual report will be generated and submitted to IEPA within 30 days of the Annual Asphalt Cover Site inspection.

The Asphalt Cover will be sealcoated with an asphalt sealer every five (5) years at a minimum or when recommended in the Site Inspection Report.

REPAIR

Asphalt Cover

The inspection report will be reviewed and a course of action to properly repair damages to the asphalt cover will be made. At a minimum, cracks in the asphalt deeper than two inches and longer than two feet will be sealed with an asphalt sealer.

Subsurface Drainage

If coarse aggregate material is clogged, the obstructing materials will be removed. If signs of seepage of infiltrated water are noted a consultant will be employed to conduct additional inspection/testing to insure that the engineered Barrier has not been compromised.

Site Security

Any damage to the fence or signs surrounding the Site which would compromise its security will be repaired. If the inspection report notes signs of trespass or damage a review of Site security will be made.

Schedule

Within 60 days of receipt of the annual inspection report, the Group will review the report, develop a remedial action plan to address all deficiencies noted and implement the remedial action.

INSTITUTIONAL CONTROLS

The existing Declaration of Restriction currently on file with the Winnebago County Recorder shall be maintained. It contains the following pertinent language: "The following restrictions are hereby placed upon the use of the aforesaid real property (also described herein as "the Site") and shall run with the land, so as to prohibit to-wit: a) all residential development of the Site; b) all public access to the Site except for general industrial use; c) all unpermitted treatment, storage or disposal of waste on the Site; and d) all uses of groundwater at the Site; all of the above except as required by the Illinois Environmental Protection Agency." This Declaration of Restriction was filed March 10, 1995.

An additional Declaration of Restriction should be added to the property including: noting the presence of hazardous substances on the Site and the requirement that no excavations or other penetrations of the impermeable barrier be allowed unless the construction workers are trained

consistent with 29 CFR 1910.120 ("OSHA") and work under an adequate health and safety plan; that all soil spoil material be managed consistent with a soil management plan consistent with all applicable state federal laws applicable at the time and that this soil management plan be specific to any planned on-Site construction activity, and furthermore that each specific soil management plan be endorsed by a person qualified to write such plans and that each specific soil management plan be provided to the Illinois EPA 30 days prior to initiation of construction activity; that the engineered barrier be maintained consistent with an inspection, maintenance, and corrective action plan to be developed as part of the remedial design and approved by the Illinois EPA.

Existing City of Rockford ordinances and State requirements that restrict the installation of potable groundwater wells within contaminated groundwater, and within minimum setback zones from primary sources will be employed.

SECTION 5.0
PROTECTIVENESS

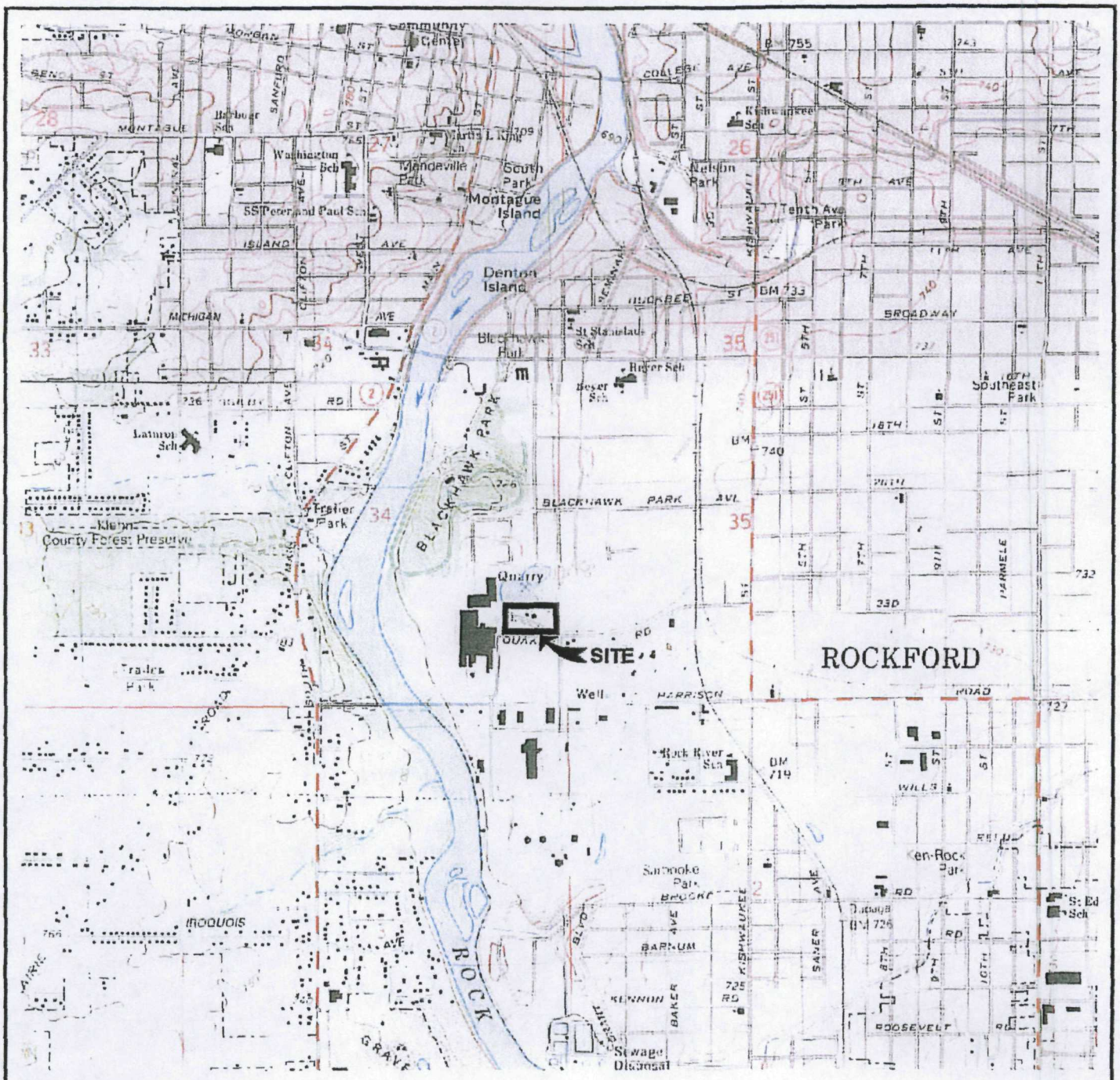
The engineered barrier constructed during this RA serves to protect human health and the environment in the manner specified in the ROD. The engineered barrier prevents direct contact with Site contaminants, serves as an impermeable barrier to limit exposure to soil vapors, prevents fugitive dust emissions, and reduces storm water infiltration through Site fill, thereby reducing potential releases to groundwater.

SECTION 6.0
FIVE-YEAR REVIEW

Because this remedy will result in hazardous substances, pollutants, or contaminants remaining on-Site above levels that allow for unlimited use and unrestricted exposure, a statutory review will be conducted within five years after initiation of remedial action to ensure that the remedy is, or will be, protective of human health and the environment. The long-term effectiveness of the remedial action can be optimized through effective design and implementation of routine maintenance, and can be verified through the regular site inspections and the CERCLA mandated five year review process. These will ensure that the alternative will remain effective in the long term. If during each five-year review cycle, statistically significant decreases in on-Site and down gradient concentrations of trichloroethene and 1,1,1-trichloroethane in shallow groundwater are not verified (which are not attributed to upgradient sources), the SVE design pilot test will be implemented. The final decision to implement the SVE remedy component will be made by the Illinois EPA based on performance of the SVE design pilot test indicating that the SVE remedy can be safely implemented considering the landfill gas concerns relative to the adjacent Peoples Avenue Landfill.

Compliance with the City and State requirement that restrict the installation of potable groundwater wells within contaminated groundwater, and within minimum setback zones from primary sources will be reviewed as part of the five-year review.

FIGURES



REFERENCE: USGS 7.5 MINUTE QUADRANGLE; Rockford, IL North & South
Photorevised 1993

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FOR:		FIGURE
INTERSTATE POLLUTION CONTROL ROCKFORD, ILLINOIS	SITE LOCATION MAP	1

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
61UN.05046.00	GH	ER	JH	9-16-06

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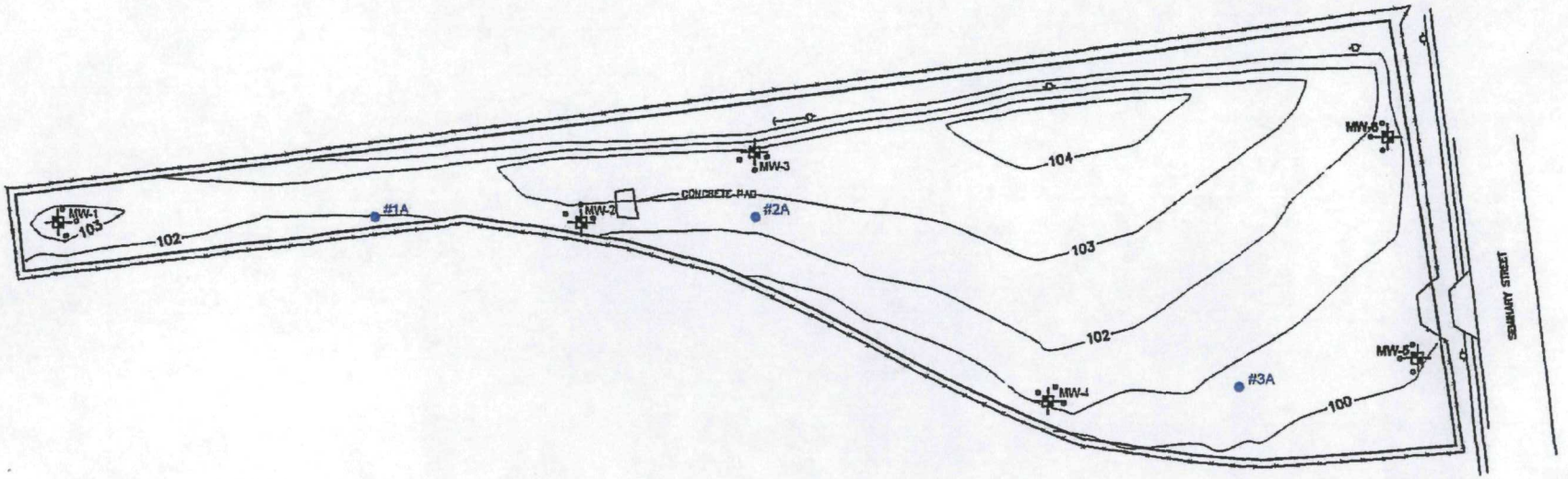

LEGEND:

MW-1 MONITORING WELL LOCATION

#1A ASPHALT CORE LOCATION

N

0 100 200

APPROXIMATE SCALE IN FEET

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FOR:				FIGURE
INTERSTATE POLLUTION CONTROL ROCKFORD, ILLINOIS		ASPHALT CORE LOCATIONS		2
JOB NUMBER: 61UN.05046.00	DRAWN BY: GH	CHECKED BY: ER	APPROVED BY: LW	DATE: 9-16-06

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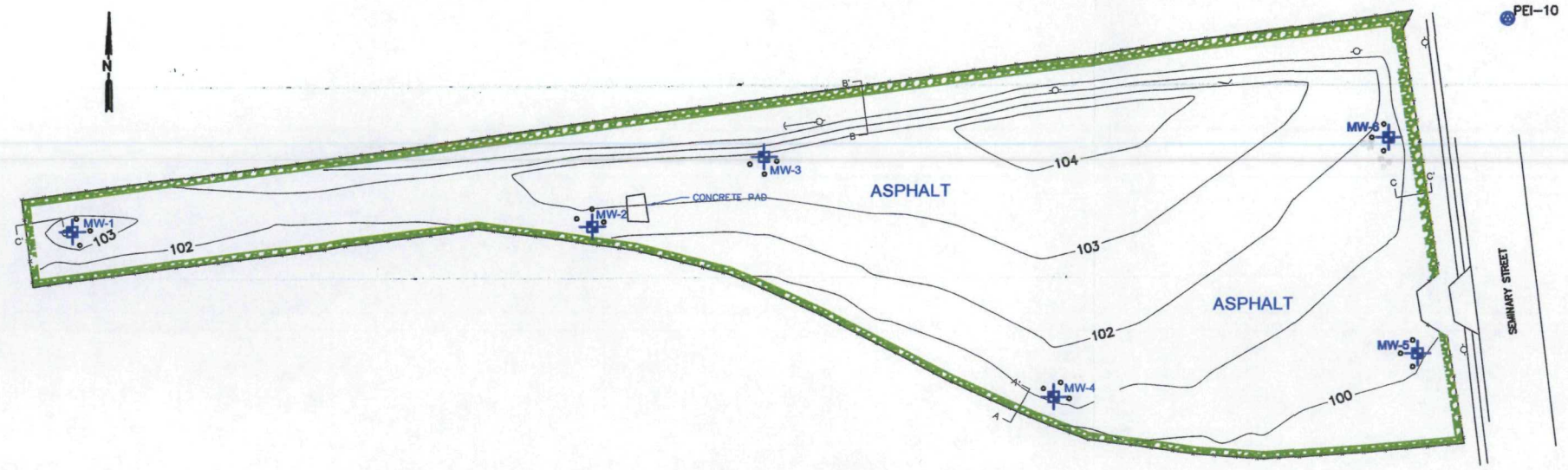
APPENDICES

APPENDIX A

AS-BUILT DRAWINGS

FINISHED CONSTRUCTION
ASPHALT CAP



LEGEND:

ROCK (CA-1)

0 100 200

APPROXIMATE SCALE IN FEET

NOTES

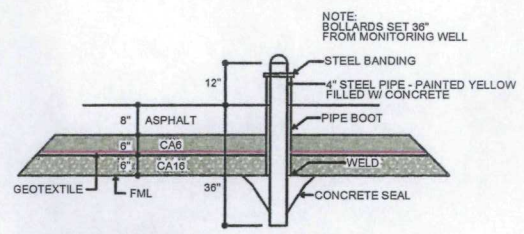
1. BASE FILL MATERIAL (BELOW GEOTEXTILE) IS CLEAN MATERIAL, FREE OF ROOTS, ROCKS OVER 3 INCHES IN DIAMETER AND DEBRIS.
2. BASE FILL MATERIAL WAS ROLLED WITH STEEL ROLLER.
3. COVER FILL PLACED ABOVE FML IS 6" OF CA-16 OR "AG LIME" UNDER 6" OF CA-6.
4. EXISTING CONCRETE PAD REMAINED IN PLACE.
5. BROKEN CONCRETE SHOWN ON FIGURE 1 IS SPREAD OUT IN A SINGLE LAYER IN FILL AREAS. SUFFICIENT SPACE BETWEEN PIECES OF CONCRETE WAS MAINTAINED TO PREVENT VOIDS IN BACKFILL MATERIAL.

CONTROL POINT TABLE

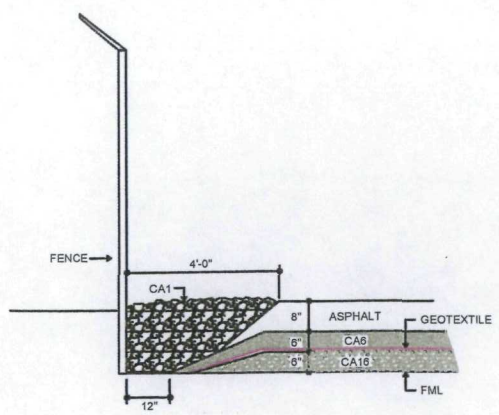
POINT	NORTHING	EASTING	ELEVATION
PEI-10	5173.63	5177.37	97.56
PEI-20	4817.74	5232.28	98.53

MONITORING WELL TABLE:

MONITORING WELL	ELEVATION	DTW	TD
MW-1	102.12	52.20	62.55
MW-2	103.75	50.73	62.38
MW-3	104.57	50.65	62.65
MW-4	102.28	48.22	62.35
MW-5	101.43	46.96	62.73
MW-6	105.62	48.01	62.72



TYPICAL BOLLARD
NOT TO SCALE



A-A'
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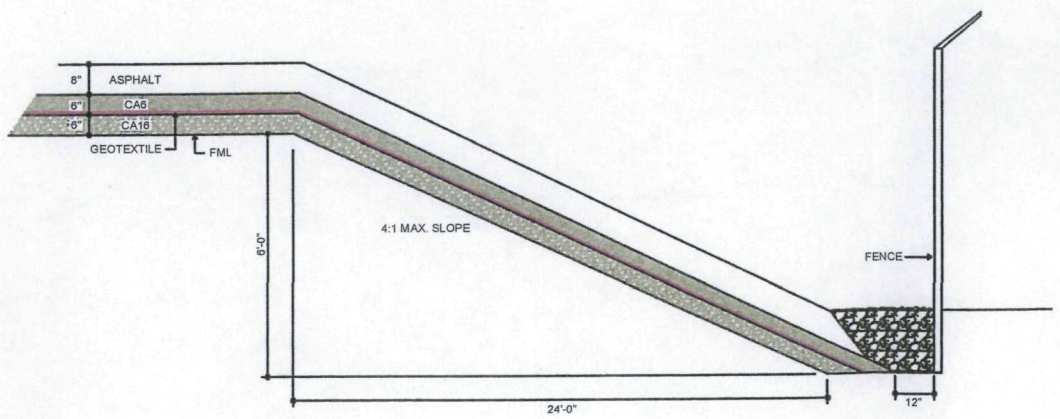

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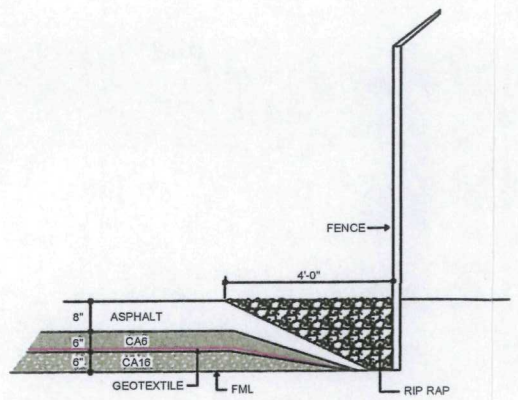

C-C'
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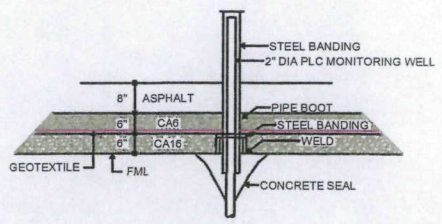

MONITORING WELL DETAIL
NOT TO SCALE

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FOR:				FIGURE
INTERSTATE POLLUTION CONTROL ROCKFORD, ILLINOIS		SITE PLAN FINISHED CONSTRUCTION		1
JOB NUMBER: 61UN.05046.00	DRAWN BY: GH	CHECKED BY: ER	APPROVED BY: KS	DATE: 9-16-06

APPENDIX B

PATRICK ENGINEERING INC. QUALITY ASSURANCE REPORT

PATRICK
ENGINEERING INC.

300 West Edwards Street
Suite 200
Springfield, IL 62704-1907
Tel: (217) 525-7050
Fax: (217) 525-7053

September 14, 2006

Mr. Doyle Wilson
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P O Box 19276
Springfield, IL 62794-9276

Subject: Construction Report

Dear Mr. Wilson:

Enclosed please find five (5) copies of the Construction Report for SECOR International Inc. for your review. If you have any questions or comments, please contact me at (217) 525-7050.

Sincerely,

PATRICK ENGINEERING INC.

J. Stephen Van Hook, P.G.
Senior Project Manager

cc: Mr. Rosaro Delrosario – US EPA Region V
Kenneth Smith – SECOR
Scott Moyer – United Technologies Corp
Tom Lupo – Seyfarth Shaw LLP
Craig Simonsen – Seyfarth Shaw LLP

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CONSTRUCTION REPORT

Prepared For

SECOR INTERNATIONAL INC.
SPRINGFIELD, ILLINOIS

Submitted To

State of Illinois
ENVIRONMENTAL PROTECTION AGENCY
Douglas P. Scott, Director

Prepared By

PATRICK
ENGINEERING INC.

SEPTEMBER 2006

EXECUTIVE SUMMARY

The SECOR International Inc. (SECOR) has completed construction at the Interstate Pollution Control Site in Rockford, Illinois. Patrick Engineering Inc. (Patrick) has prepared this report documenting the construction quality assurance performed and certified by Patrick. The required testing and surveillance conducted and presented in this report is in accordance with the requirements of the SECOR Construction Quality Assurance Plan.

INTRODUCTION

Patrick was hired by SECOR to perform Construction Quality Assurance (CQA) services, for the construction of an engineered barrier at the Interstate Pollution Control Site in Rockford, Illinois. Patrick activities consisted of overseeing the installation of the Flexible Membrane Liner (FML), testing the compaction of the drainage layer and the compaction of the granular base layer. The CQA was performed in general accordance with the Construction Quality Assurance Plan dated June 1, 2006, as modified by the Engineer and Barrier Installation Construction Specifications dated September 12, 2006. The modification effecting Patrick's CQA pertained to the compaction requirements of the granular base layer and the drainage layer.

SCOPE OF WORK

Certification. The installation of the FML and compaction of the drainage layer and granular base layer was performed under the CQA supervision of Patrick. A statement by the CQA officer is included in Appendix A. A detailed description of the construction and certification testing methods for the work certified by Patrick is included in the following sections of the report.

Documentation of Construction Methods. The Construction Quality Assurance Officer (CQAO) or designated representative was on-site during construction activities to monitor and document the construction sequences. Daily summary reports were prepared to document the construction progress, describe equipment and procedures used in the work, and summarize the results of any tests that may have been performed. Copies of the daily summary reports are included in Appendix B.

Material Testing. The materials used to construct the facility were tested in the field. The results of the testing are summarized in the applicable sections of this report.

FLEXIBLE MEMBRANE LINER

Method of Construction. A 40-mil HDPE was used for the FML, which was placed over the subgrade. The panels were deployed onto the subgrade with the orientation as shown in Figure 1. Rolls of the geomembrane were deployed with the use of a rubber tire tractor with forks to hold the spreader bar. An ATV and workers were used to position the panels to the proper location and overlap. The rolls were pulled tight to remove wrinkles and sandbags were used to secure the panel until seaming took place.

The seam was prepared by adjusting the panels for proper overlap and pulling the panels to remove folds and wrinkles. Dust or dirt on the seam area was removed with use of rags. The self-propelled fusion welder was then used to weld the seams.

Extrusions welds were performed to properly patch around monitoring wells, punctured areas along panels, and for any repairs that were necessary to prohibit leakage from any portion along the surface area.

Non-Destructive Testing. The entire length of each seam was nondestructively tested by the air-pressure method. A Patrick CQAO continuously monitored the testing operations. The record of each non-destructive test is included in Appendix C.

The air-pressure test consists of pressurizing the enclosed airspace between the double seam to approximately 30 psi for a period of five minutes. A loss of pressure less than three psi resulted in a passing test. No leaks were detected while testing the welded seams.

Upon completion of the extrusion weld a vacuum box test were performed. The vacuum box test consisted of a vacuum held over the test area for a time period of five to ten psi. A passing test results when no bubbles appear in the vacuum box after a test period of approximately fifteen seconds. No leaks were detected.

Patrick was onsite during all fusion welding. Patrick observed all extrusion welds except those performed on July 22, 2006. Per the SECOR project manager, Patrick was not required to be onsite during the remaining extrusion welds performed. However, Patrick observed sufficient non-destructive testing to meet the requirements of the specification.

Detective Testing. Samples of the welds were obtained at random locations selected by SECOR. A 2-foot section of seam was removed form the selected locations. Coupons were then cut from either end of the sections for field tests. The results of the field-testing performed are presented in Appendix D.

One test failed, but a second coupon was cut immediately adjacent to the failed one and the test passed. It appeared that the first sample might not have been placed properly in the test device. Since the second test passed all field tests complied with the specifications.

DRAINAGE LAYER

Method of Construction. The Drainage Layer consisted of placing CA-16 over the FML. The CA-16 was placed in one 6-inch thick lift and compacted.

Field Density Test. Field density test was performed to document the *in-situ* density of the Drainage Layer. A nuclear density gauge was used to measure the field density of the Drainage Layer in field. The nuclear density tests were performed in accordance with ASTM D 2933.

Due to the steepness of the north slope, no CA-16 was placed in this area. The CA-16 was replaced with a medium sand. As a result, no density tests were performed in this area.

The test locations and results are shown in Appendix E. All of the tests recorded compaction greater or equal than specified 90%.

GRANULAR BASE LAYER

Method of Construction. The Granular Base Layer consisted of placing CA-6 over a geotextile, which was placed over the Drainage Layer. The CA-6 was placed in one 6-inch thick lift and compacted.

Field Density Test. Field density test was performed to document the *in-situ* density of the Granular Base Layer. A nuclear density gauge was used to measure the field density of the Granular Base Layer in field. The nuclear density tests were performed in accordance with ASTM D 2933.

The test locations and results are shown in Appendix E. All of the tests recorded compaction greater or equal than specified 90%.

CONCLUSIONS

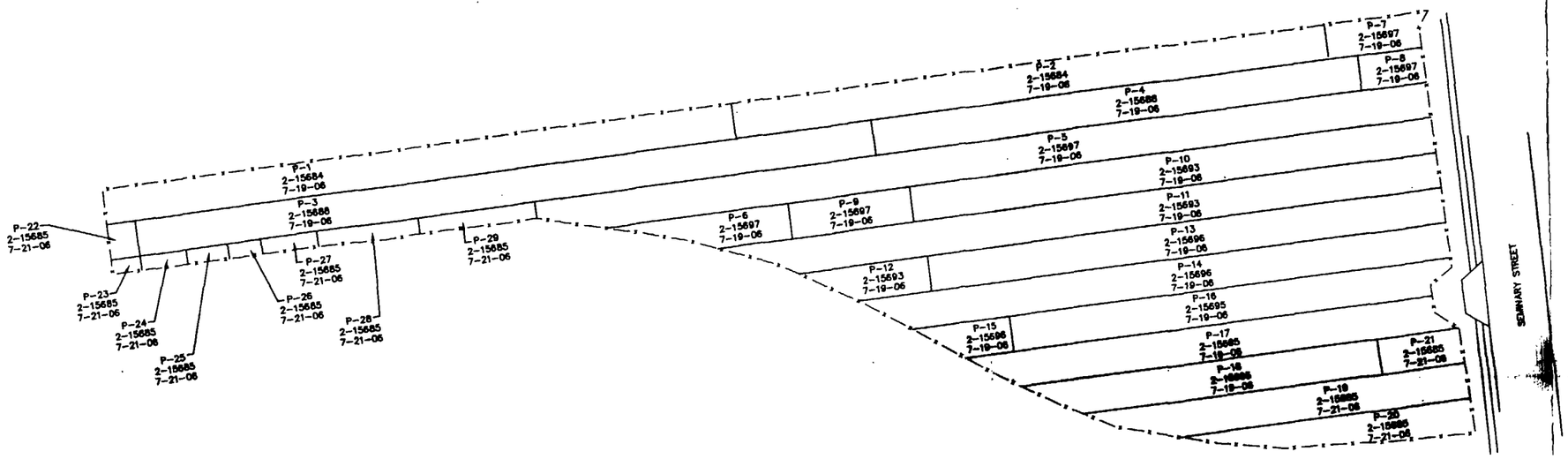
Based on the results of the testing and the field observations the following conclusions are apparent:

1. The installation of the FML and compaction of the drainage layer and granular base layer meet or exceed the minimum standard as required by the specifications.
2. All field-testing was conducted in accordance with the requirements of the specifications.

P:\SECOR\Construction Report.doc

FIGURE 1

FML PANEL LAYOUT



N

0 20' 40'

GRAPHIC SCALE

LEGEND:

— x — x —	FENCE LINE
———	APPROXIMATE LIMITS OF FML PANEL
P-21	PANEL NUMBER
2-15685	ROLL NUMBER
7-21-06	INSTALLATION DATE

NOTE:

THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY.

\\SPRINGFIELD1\DATA\WASTE\20603\051\PANELS.DWG

REV. No.	DATE	DESCRIPTION

PATRICK ENGINEERING INC.
SPRINGFIELD, ILLINOIS

SECOR

RD/RA PROJECT
40 MIL HDPE PANEL LAYOUT
ROCKFORD, ILLINOIS

SCALE: AS SHOWN	DATE: 9/14/06
DESIGNED BY: JWD	PROJECT No.: 20603.051
DRAWN BY: JWD	SHEET No.
CHECKED BY: MDB	1
APPROVED BY: JSV	1 OF 1 SHEETS

APPENDIX A

CQA OFFICER'S STATEMENT

CQA OFFICER'S STATEMENT

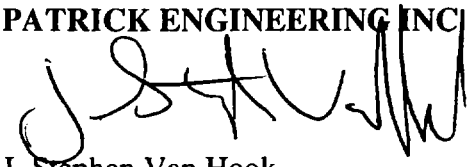
Patrick Engineering Inc. (Patrick) provided the Construction Quality Assurance for a portion of a engineer barrier described in this report at Interstate Pollution Control Site in Rockford, Illinois.

All quality assurance activities performed by Patrick personnel were under the direct supervision of the Construction Quality Assurance (CQA) Officer or his designated representatives, the CQA Officers-In-Absentia (CQA-OIA). The activities undertaken by Patrick are documented in the attached Construction Acceptance Report.

The CQA Officer designated four CQA-OIA who were onsite, as required, to oversee installation of portions of the engineer barrier. The CQA Officer was not present because, in his professional judgment, his presence was not required because the CQA-OIA had adequate knowledge and guidance of the requirements of the CQA Plan.

The CQA Officer at the time of the project construction activities was Steve VanHook. In the absence of the CQA Officer, Matt Breitenbach, Tom Winner, Jeff Deckard, and Marcin Gliszewski were onsite serving as CQA-OIA. The CQA Officer assumes full responsibility for all CQA related activities performed by Patrick at this site whether under his direct supervision or at the direction of the CQA-OIA.

PATRICK ENGINEERING INC



J. Stephen Van Hook.
CQA Officer
Registered Professional Geologist
Illinois No. 196-000247
Expires March 31, 2007

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APPENDIX B

DAILY FIELD REPORTS

PATRICK ENGINEERING INC.

Daily Field Report

Project: SECOR - Remedial CQA - Rockford Project No: 20503.051

Client: SECOR Date: 07/19/06

Weather Conditions: Mostly Cloudy to Overcast, Rain starts ~3:00, 80°-87°F

Time Log: Onsite 9:40AM to 3:30 PM Total Hours: 12.5

Vehicle: 122 Mileage: Page 1 of 1

Lv Springfield ~6:20 AR Onsite 9:40

Met Eric Roundy and John Hooker from Secor. Eric will be Secor's onsite presen. John is filling in for Ken Smith (on vacation) as PM.

- Installer is a subcontractor for GSE - geomembrane manufacturer.
- Installer had deployed two panels of 40 mil HDPE beginning on the North side of the site, placing the along the long dimension of the site West to East.
- Installer crew comprised of (2) two-person wedge welding crews, (1) deploying crew with 3 people pulling and positioning panels and 1 operating the JL 544J rubber tired tractor w/ fork or bucket.
  - used fork to hold spreader bar for deployment
  - bucket to smooth subgrade or move sandbags
  - used personal ATV to pull FML
  - Sandbags to weigh edges of FML panels
- IEPA (Doyle Wilson) and one other from IEPA and USEPA onsite ~10-12.

Installer Activities:

- Deploy and wedge weld panels; cut FML to fit around Monitoring Wells; Marked panels w/ Panel #, Roll #, Date of Installation; Marked seams w/ seamer initials, date/time of start, weld temp and speed.

Patrick Activities:

- Observed and documented above, sketched panel layout, noted burn-outs
- No testing completed today

Rain, thunder and lightning stopped work Unsafe Conditions.

Personnel MDB, TJW, SECOR, IEPA, USEPA, Installer Engineer/Technician

PATRICK ENGINEERING INC.

Daily Field Report

Project: Secor Remedial CQA — Project No: 20603.051

Client: Secor — Date: 7/20/06

Weather Conditions: Rainy, 75°

Time Log: 7:30 am - 5:30pm (½ hr Lunch) — Total Hours: 9.5

Vehicle: 162 — Mileage: — Page 1 of 1

* Called Eric Roundy @ 6:00 am to check site conditions. Eric said thunder ? lightning and threatening to rain. Told him to call me back when he knew more information. Eric called back @ 7:30 am, told me to come to site for more testing.

* Left office @ 7:30 am, arrived on site @ 10:45 am. Spoke to Eric Roundy; Contractor left on account of weather ~10:30 am, may come back.

* Asked Eric if he could call contractor to let him know I was on-site. Eric said he did not have the contractor's number. I asked Eric again if he could reach the contractor, said he knew someone who had the number → Contractor informed Eric Roundy he would not be coming back on site that day.

* Left site & returned to office ~ 5 pm, showed Jeff Deckard (Patrick) how to run tests for next day.

* Contractor Activities
  - Performed pressure tests on some seams while inspector was en-route to site

* Inspector Activities
  - Recorded pressure test results upon on-site arrival

Personnel Eric Roundy (Secor), TJW (Patrick) — Engineer/Technician Thomas J. Winner

PATRICK ENGINEERING INC.

Daily Field Report

Project: SECOR - Remedial CQA - Rockford
Project No: 20503.051
Client: SECOR
Date: 7-21-06
Weather Conditions: Cloudy [illegible] 85°, + Rain 13:30pm
Time Log: Onsite 8:30 to 14:00
Total Hours:
Vehicle: 162
Mileage:
Page 1 of 2

Lv Springfield [illegible] Ar on site 8:30

Personnel

Contractor

(2) - Pressure tests

(1) - Documenting [illegible] + Material testing

(3) - Welding

SECOR - Eric Roundy

[illegible] - Doyle Wilson

Contractor Activities.

- Performed destructive test on 4 Areas + (1) sample weld.
- Performed non-destructive test on extension + wedge welds.
- Installed final panels over site (Panels 21 thru 29)
- Contractor Stopped work due to rain @ 13:30
- Installed Patches over Burnouts, DS locations, + Anomal [illegible]

Patrick Activities

- Observed + documented above. Sketched panel layout, noted burn-outs + a [illegible] + Documented all tests performed. See test log

Personnel JWO, SECOR, IEPA, Installer
Engineer/Technician [signature]

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PATRICK
ENGINEERING INC.

Daily Field Report

PROJECT	RD/RA Project, Interstate Pollution Control, Rockford II			**PROJECT #**	20603.051-3
CLIENT	SECOR International			**DATE**	7/25/2006
WEATHER	Partly Cloudy, 95^0 F, 0-5 MPH Winds from NW, humid				
TIME LOG	09:30 – 17:30			**TOT. HRS.**	8.0
VEHICLE	**164**	**MILEAGE**	**198**	**PAGES**	1

0930 – Departed Lisle.

1115 – Arrived to job site in Rockford. Met Eric Rounder .from Secor. Discussed work progress and scope for today's density testing. East side of the plot was already covered with 6" lift of CA-16, geotextile and 6"lift of CA-6.

Checked with Secor established density criteria. Per Secor every 6" lift of CA-16 and CA-6 needs to meet 90% of Proctor density.

1130 –Conducted density testing on CA-16 placed at the center of the plot. Conducted density testing on CA-6 placed at the east side of the plot and in the end of the day in the center of the plot.

Surveyed testing locations during each test using handheld GPS Garmin V to conform proper testing coverage.

1515 – Demobilized form the job site and traveled back to Lisle office. Unloaded supplies and secured Troxler in the closet.

1700- Completed daily field report. Density testing data are submitted in separate report.

Marcin Gliszewski

Geo-Environmental Engineer

PATRICK ENGINEERING INC.

Daily Field Report

PROJECT	RD/RA Project, Interstate Pollution Control, Rockford II			**PROJECT #**	20603.051-3
CLIENT	SECOR International			**DATE**	7/28/2006
WEATHER	Partly Cloudy, 95^0 F, 0-5 MPH Winds from NNW, humid				
TIME LOG	09:30 – 17:30			**TOT. HRS.**	8.0
VEHICLE	**164**	**MILEAGE**	**198**	**PAGES**	1

0930 – Departed Lisle. Picked up supplies (flags, 5 gal buckets, spray paint).

1115 – Arrived to job site in Rockford. Met Eric Rounder and Ken Smith. Discussed work progress and scope for today's density testing.

1130 – Conducted density testing on CA-16 placed on the west end of the plot. Conducted density testing on CA-6 placed at the center of the plot and the west end of the plot. Surveyed testing locations during each test using handheld GPS Garmin V to conform proper testing coverage.

Collected samples of CA-16 and CA-6 for possible laboratory Proctor density testing.

1430 – On the north side of the plot steep slopes were covered with light brown medium sand. CA-16 stone material would slide down on HDPE line to the toe of the slope. Per SECOR there is no need to perform density testing on the slopes.

1500 – Demobilized form the job site and traveled to Lisle office. Unloaded supplies and secured Troxler in the closet.

1700- Completed daily field report. Density testing data are submitted in separate report.

Marcin Gliszewski

Geo-Environmental Engineer

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APPENDIX C

NON-DESTRUCTIVE TEST RESULTS

PATRICK ENGINEERING INC.

NON-DESTRUCTIVE TESTING FORM

PROJECT NAME Secor Remedial CQA INSPECTOR Tom Winner DATE 7/20/06

PROJECT NUMBER 20603.051 PAGE 1 OF 1

SEAM NUMBER	SEAM LENGTH	TESTER INITIAL	AIR PRESSURE					VBOX PASS/FAIL	LOCATION/COMMENTS ~~SHEAR ppi~~
			PRESSURE			TIME DURATION	PASS/FAIL		
			START	END	+/-				
P12 - P13	13'		30	30	ϕ	5min	P		
P11/P-12			30	30	ϕ	5min	P		
P-13/P-14			30	30	ϕ	5min	P		
P15/P14			30	30	ϕ	5min	P		
P15/P16	22'		30	30	ϕ	5min	P		
P17/P15	12'		30	30	ϕ	5min	P		
P14/P16			30	30	ϕ	5min	P		
P17/16			30	29	-1	5min	P		
P17/18			30	30	ϕ	5min	P		
P17/14	5'		30	30	ϕ	5min	P		
P19/P18	15'		30	30	ϕ	5min	P		

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PATRICK ENGINEERING INC.

NON-DESTRUCTIVE TESTING FORM

PROJECT NAME SECOR Remedial CQA INSPECTOR JWD DATE 7-21-06

PROJECT NUMBER 20603.051 PAGE 1 OF 4

SEAM NUMBER	SEAM LENGTH	TESTER INITIAL	AIR PRESSURE					VBOX PASS/FAIL	LOCATION/COMMENTS SHEAR ppi
			PRESSURE			TIME DURATION	PASS/FAIL		
			START	END	+/-				
P4/P5	291		30	30	0	5 min.	Pass		
P4/P2	18		30	30	0	5 min.	Pass		
P4/P3	312		30	30	0	5 min.	Pass		
P8/P4	24		30	30	0	5 min.	Pass		
P7/P2	24		30	30	0	5 min.	Pass		
P7/P8	27		30	30	0	5 min.	Pass		
P7/P8	27		30	30	0	5 min.	Pass		
P5/P8	51		30	30	0	5 min.	Pass		
P3/P2	8		30	30	0	5 min.	Pass		
P1/P2	27		30	28	2	5 min.	Pass		
P2/P4	135		30	29	1	5 min.	Pass		
P1/P3	27		30	29	1	5 min.	Pass		
P1/P3	39		30	30	0	5 min.	Pass		
P3/P1	195		30	30	0	5 min.	Pass		
P3/P1	12		30	30	0	5 min.	Pass		

PATRICK ENGINEERING INC.

NON-DESTRUCTIVE TESTING FORM

PROJECT NAME SECOR Remedial CQA INSPECTOR JWD DATE 7-21-06

PROJECT NUMBER 20603.051 PAGE 2 OF 4

SEAM NUMBER	SEAM LENGTH	TESTER INITIAL	AIR PRESSURE					VBOX PASS/FAIL	LOCATION/COMMENTS SHEAR ppi
			PRESSURE			TIME DURATION	PASS/FAIL		
			START	END	+/-				
P23/P22	12		30	30	0	5 min.	Pass		
P3/P22	21		30	30	0	5 min.	Pass		
P23/P3	18		30	30	0	5 min.	Pass		
P23/P24	5		30	30	0	5 min.	Pass		
P24/P3	30		30	30	0	5 min.	Pass		
P24/P25	5		30	30	0	5 min.	Pass		
P25/P3	30		30	30	0	5 min.	Pass		
P25/P26	4		30	30	0	5 min.	Pass		
P26/P3	30		30	30	0	5 min.	Pass		
P26/P27	4		30	30	0	5 min.	Pass		
P27/P3	27		30	30	0	5 min.	Pass		
P28/P27	3		30	30	0	5 min.	Pass		
P28/P3	78		30	30	0	5 min.	Pass		
P28/P29	4		30	30	0	5 min.	Pass		
P29/P30	27		30	30	0	5 min.	Pass		

PATRICK ENGINEERING INC.

NON-DESTRUCTIVE TESTING FORM

PROJECT NAME SECOR Remedial CQA INSPECTOR JWD DATE 7-21-06

PROJECT NUMBER 20603.051 PAGE 3 OF 4

SEAM NUMBER	SEAM LENGTH	TESTER INITIAL	AIR PRESSURE					VBOX PASS/FAIL	LOCATION/COMMENTS SHEAR ppi
			PRESSURE			TIME DURATION	PASS/FAIL		
			START	END	+/-				
P3/P5	198		30	30	0	5 min.	Pass		
P6/P5	33		30	30	0	5 min.	Pass		
P6/P9	15		30	30	0	5 min.	Pass		
P9/P5	138		30	30	0	5 min.	Pass		
P9/P10	21		30	30	0	5 min.	Pass		
P10/P5	90		30	30	0	5 min.	Pass		
P9/P11	84		30	30	0	5 min.	Pass		
P10/P11	90		30	30	0	5 min.	Pass		
P10/P11	9		30	30	0	5 min.	Pass		
P10/P11	252		30	30	0	5 min.	Pass		
P5/P10	216		30	30	0	5 min.	Pass		
P21/P17	18		30	30	0	5 min.	Pass		
P21/P18	21		30	30	0	5 min.	Pass		
P21/P19	39		30	30	0	5 min.	Pass		
P20/P19	30		30	30	0	5 min.	Pass		

PATRICK ENGINEERING INC.

NON-DESTRUCTIVE TESTING FORM

PROJECT NAME SECOR Remedial CQA INSPECTOR JWD DATE 7-21-06

PROJECT NUMBER 20603.051 PAGE 4 OF 4

SEAM NUMBER	SEAM LENGTH	TESTER INITIAL	AIR PRESSURE					VBOX PASS/FAIL	LOCATION/COMMENTS SHEAR ppi
			PRESSURE			TIME DURATION	PASS/FAIL		
			START	END	+/-				
P20/P19	12		30	30	0	5 min.	Pass		
P20/P19	156		30	30	0	5 min.	Pass		
P19/P18	120		30	28	2	5 min.	Pass		
P19/P18	24		30	30	0	5 min.	Pass		
P19/P18	30		30	30	0	5 min.	Pass		
P13/P14	27		30	29	1	5 min.	Pass		
P11/P13	6		30	30	0	5 min.	Pass		
P11/P13	246		30	30	0	5 min.	Pass		
P11/P13	10		30	30	0	5 min.	Pass		
P13/P14	24		30	30	0	5 min.	Pass		
R7	-		-	-	-	-	-	PASS	
NE WELL	-		-	-	-	-	-	PASS	

APPENDIX D

DESTRUCTIVE TEST RESULTS

PATRICK ENGINEERING INC.

DESTRUCTIVE TEST LOG

PROJECT NAME SECOR Remedial CQA INSPECTOR JWD DATE 7-21-06

PROJECT NUMBER 20603.051 PAGE 1 OF 1

MATERIAL TYPE HDPE THICKNESS 40 mil MIN. PEEL 65 ppi (fusion) 52 ppi (extrusion) MIN. SHEAR 81 ppi

DESTRUCTIVE SAMPLE NUMBER	DATE OF WELD	WELDING TECH. INITIALS	PANEL NUMBERS	MACHINE TYPE & #	LOCATION	PEEL TEST, ppi					PASS/ FAIL	SHEAR TEST, ppi					PASS/ FAIL
DS-1	7-19-06		P1/P3	2-15685		69/109					PASS	130	118				PASS
DS-2	7-19-06		P5/P10	2-15685		109/94					PASS	93	104				PASS
DS-3	7-19-06		P14/P16	2-15685		113/93					PASS	110	106				PASS
DS-4	7-19-06		P4/P8	2-15685		109/49*	102/130				PASS	102	115				PASS
Extrusion Weld	7-21-06			MX447		101/120					PASS	151					PASS
* Retested second coupon from same destruct sample. Retest Passed																	

APPENDIX E

NUCLEAR DENSITY SUMMARY

NUCLEAR DENSITY TEST DATA

PATRICK ENGINEERING INC.

Project: RD/RA Project, Interstate Pollution Control, Rockford, IL Job No: 20603.051-300

Client: SECOR International Inc. Date Tested: 07/25/06

Inspector: Marcin Gliszewski Page: 1 of

Density Standard: 2543 Moisture Standard: 454 Meter No.: 23611

Test No.	Elev.	Lift Thick.	Location
1		6" 1 ft.	GPS .095 CA-16.
2		6" 1 ft	GPS 096 CA-16
3		6"	097 CA-16
4		6"	098 CA-16
5		6"	099 CA-16
6		6"	100 CA-16
7		6"	101 CA-06
8		6"	102 CA-06
9		6"	103 CA-06
10		6"	104 CA-06

TEST DATA

Test No.	1	2	3	4	5	6	7	8	9	10
Soil No.	CA-16	CA-16	CA-16	CA-16	CA-16	CA-16	CA-6	CA-6	CA-6	CA-6
Probe Depth, in.	4	4	4	4	4	4	4	4	4	4
Time Interval, min.	1	1	1	1	1	1	1	1	1	1
Aver. Density Count	4348	3993	4071	4554	4296	4485	2861	2796	2877	2903
Aver. Moisture Count	48	58	53	50	53	49	91	107	89	97
Density Ratio		1.570	1.601	1.79	1.689	1.764	1.125	1.099	1.131	1.142
Moisture Ratio		0.089	0.081	0.076	0.081	0.075	0.139	0.164	0.136	0.148
Wet Density, pcf	104.6	109.0	108.0	102.1	105.2	102.9	126.4	127.5	126.1	125.6
Weight of Water, pcf		3.7	3.2	2.9	3.2	2.8	6.8	8.3	6.6	7.4
Dry Density, pcf	101.8	105.3	104.8	99.2	102.0	100.1	119.6	119.3	119.5	118.3
Moisture Content, %	2.7	3.5	3.1	3.0	3.2	2.8	5.7	7.0	5.5%	6.2
Control Density, pcf	97.8	97.8	97.8	97.8	97.8	97.8	129.5	129.5	129.5	129.5
Opt. Moisture, %										
% Compaction	104.1%	107.7	107.2	101.4	104.2	102.3	92.4	92.1	92.3	91.3
Results	P	P	P	P	P	P	P	P	P	P

P: Test Passed F: Test Failed R: Retest of Failed Area

NUCLEAR DENSITY TEST DATA

PATRICK ENGINEERING INC.

Project: RD/RA Project, Interstate Pollution Control, Rockford, IL   Job No: 20603.051-300
Client: SECOR International Inc.   Date Tested: 7/25/06
Inspector: Marcin Gliszewski   Page: 2 of 2
Density Standard: 2543   Moisture Standard: 654   Meter No. 2364

Test No.	Elev.	Lift Thick.	Location
11		6"	105 CA-06
12		6"	106 CA-06
13		6"	107 CA-06
14		6"	108 CA-06
15		6"	109 CA-06
16		6"	110 CA-06
17		6"	111 CA-06

COMPACTOR → INGERSOLL - RAND, #1679

BLANKET ... CONSTR. ...

TEST DATA

Test No.	11	12	13	14	15	16	17			
Soil No.	CA-6	CA-6	CA-6	CA-6	CA 6	CA-6	CA-6			
Probe Depth, in.	4	4	4	4	4	4	4			
Time Interval, min.	1	1	1	1	1	1	1			
Aver. Density Count		2717	2693	2736	2706	2719	2787			
Aver. Moisture Count		96	83	93	89	90	76			
Density Ratio		1.068	1.059	1.076	1.064	1.069	1.096			
Moisture Ratio		0.147	0.127	0.142	0.136	0.138	0.116			
Wet Density, pcf	127.0	129.1	129.6	128.8	129.3	129.1	127.9			
Weight of Water, pcf	6.9	7.3	6.0	7.0	6.6	6.7	5.4			
Dry Density, pcf	120.1	121.8	123.6	121.8	122.7	122.4	122.5			
Moisture Content, %	5.7	6.0	4.9	5.7	5.4	5.5	4.4			
Control Density, pcf	129.5	129.5	129.5	129.5	129.5	129.5	129.5			
Opt. Moisture, %										
% Compaction	92.7	94.1	95.4	94.0	94.8	94.5	94.6			
Results	P	P	P	P	P	P	P			

P: Test Passed   F: Test Failed   R: Retest of Failed Area

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NUCLEAR DENSITY TEST DATA

PATRICK ENGINEERING INC.

Project: RD/RA Project, Interstate Pollution Control, Rockford, IL Job No: 20603.051-300

Client: SECOR International Inc. Date Tested: 07/28/06

Inspector: Marcin Gliszewski Page: 1 of 2

Density Standard: 2543 Moisture Standard: 654 Meter No.: 23611

Test No.	Elev.	Lift Thick.	Location
1		6"	GPS - 113 WELL SOUTH GPS-112
2		6"	114 WELL WEST GPS-115
3		6"	GPS-116
4		6"	GPS-117
5		6"	GPS-118
6		6"	GPS-119
7		6"	-120
8		6"	-121
9		6"	122
10		6"	123
~~11~~		~~6"~~	~~124~~

TEST DATA

Test No.	1	2	3	4	5	6	7	8	9	10	11
Soil No.	CA-16	CA-16	CA-6	CA-6	CA-6	CA-6	CA-6	CA-6	CA-6	CA-16	CA-16
Probe Depth, in.	4	4	4	4	4	4	4	4	4	4	4
Time Interval, min.	1	1	1	1	1	1	1	1	1	1	1
Aver. Density Count	4538	4540	2335	2198	2173	2593	2593	2483	2492	4675	4757
Aver. Moisture Count	49	45	105	93	91	96	97	92	83	49	49
Density Ratio	1.785	1.785	0.918	0.864	0.855	1.020	1.020	0.976	0980	1.838	1.871
Moisture Ratio	0.075	0.069	0.161	0.142	0.139	0.147	0.148	0.141	0.127	0.075	0.075
Wet Density, pcf	102.3	102.3	137.0	140.20	140.8	131.5	135	133.8	133.7	100.7	99.8
Weight of Water, pcf	2.8	2.5	8.1	7.0	6.8	7.3	7.4	6.9	6.0	2.8	2.8
Dry Density, pcf	99.4	99.8	128.9	133.2	134.0	124.3	124.2	126.9	127.6	97.9	96.9
Moisture Content, %	2.9	2.5	6.3	5.2	5.1	5.8	5.9	5.4	4.7	2.9	2.9
Control Density, pcf	97.8	97.8	129.5	129.5	129.5	129.5	129.5	129.5	129.5	97.8	97.8
Opt. Moisture, %	N/A	N/A	8.6	8.6	8.6	8.6	8.6	8.6	8.6	N/A	N/A
% Compaction	101.7	102.1	99.5	102.9	103.5	96	95.9	98	98.6	100.1	99.1
Results	P	P	P	P	P	P	P	P	P	P	P

P: Test Passed F: Test Failed R: Retest of Failed Area

NUCLEAR DENSITY TEST DATA

PATRICK ENGINEERING INC.

Project: RD/RA Project, Interstate Pollution Control, Rockford, IL Job No: 20603.051-300

Client: SECOR International Inc. Date Tested: 07/28/06

Inspector: Marcin Gliszewski Page: 2 of 2

Density Standard: 2543 Moisture Standard: 654 Meter No. 23611

Test No.	Elev.	Lift Thick.	Location
11		6"	GPS-124
12		6"	-125
13		6"	-126
14		6"	-127
15		6"	-128
16		6"	-129
17		6"	-130
18		6"	-131
19		6"	-132
20		6"	-133

TEST DATA										
Test No.	11	12	13	14	15	16	17	18	19	20
Soil No.	CA-16	CA-6	CA-6	CA-6	CA-6	CA-6	CA-6	CA-6	CA-6	CA-6
Probe Depth, in.	4	4	4	4	4	4	4	4	4	4
Time Interval, min.	1	1	1	1	1	1	1	1	1	1
Aver. Density Count	4757	2301	2278	2389	2217	2231	2268	2154	2084	2457
Aver. Moisture Count	49	99	104	85	99	97	89	107	106	98
Density Ratio	1.871	0.905	0.896	0.939	0.872	0.877	0.892	0.847	0.820	0.966
Moisture Ratio	0.075	0.151	0.159	0.145	0.151	0.148	0.136	0.164	0.162	0.150
Wet Density, pcf	998	137.8	138.3	135.8	139.7	139.4	138.6	141.2	142.9	134.3
Weight of Water, pcf	2.8	7.5	8.0	7.2	7.5	7.4	6.6	8.3	8.2	7.4
Dry Density, pcf	969	130.2	130.2	128.7	132.2	132.0	132.0	132.9	134.7	126.9
Moisture Content, %	2.9	5.8	6.2	5.6	5.7	5.6	5.0	6.2	6.1	5.9
Control Density, pcf	97.8	129.5	129.5	129.5	129.5	129.5	129.5	129.5	129.5	129.5
Opt. Moisture, %	N/A	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
% Compaction	99.1	100.6	100.6	99.4	102.0	101.9	101.9	102.6	104.0	98
Results	P	P	P	P	P	P	P	P	P	P

P: Test Passed F: Test Failed R: Retest of Failed Area

APPENDIX C

CONSTRUCTION PHOTOGRAPHS

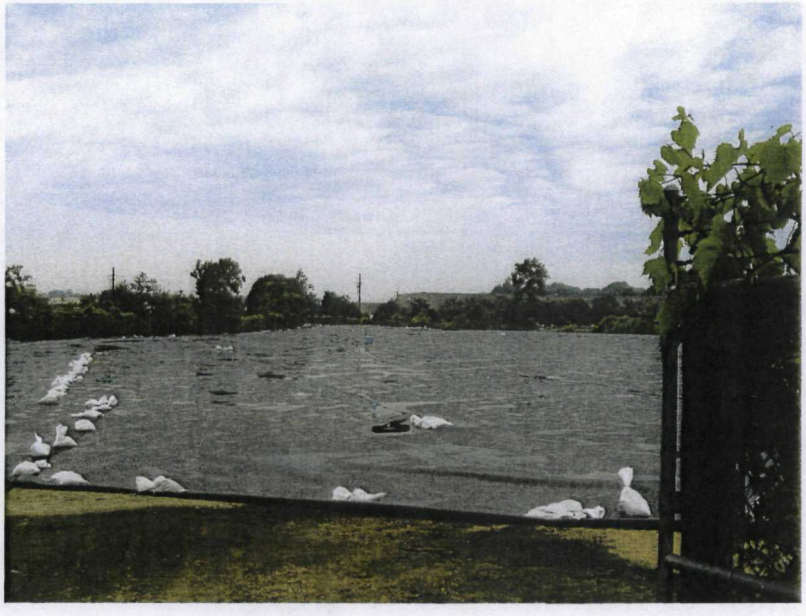
05/18/2005
Initial Site Visit

04/20/2006
Site Clearing

06/26/2006
Grubbing

07/05/2006
Site Grading

07/10/2006
Installing New Wells



07/19/2006
FML Installation

07/25/2006
FML Cover Fill

08/03/2006
Final Grading

08/10/2006
Asphalt Installation

08/14/2006
Engineered Barrier Completion

APPENDIX D

WELL ABANDONMENT FORMS & NEW WELL LOGS

SECOR

SECOR INTERNATIONAL INCORPORATED

400 Bruns Lane
Springfield, IL 62702
217.698.7247 phone
217.698.8538 fax

www.secor.com

Letter of transmittal

attention: Winnebago Co. Health Dept.

date: June 1, 2006

company: Winnebago County

address:
401 Division Street
Rockford, IL 61104

project: IPC/ Roto Rooter Superfund Site

project no.: 61UN.05046.00

re: Monitoring well abandonment forms

enclosed:

( ) Proposal
( ) Contract
( ) Report
( ) Letter
(X) Other: Forms

( ) As Requested
( ) Review
( ) Your Information
( ) Approval
( ) Signature
( ) Return
( ) Other: ____

comments:

Kenneth G. Smith, P.E.

Senior Civil Engineer

cc:

4/2000

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
525 W. JEFFERSON ST.
SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

TYPE OR PRESS FIRMLY

RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT

[redacted]

1. Ownership (Name of Controlling Party) IPC/RotoRooter Superfund Site RD/RA Steering Committee

2. Well Location 136 Harrison Ave. (Address - Lot Number) Rockford (City) Winnebago (County)

General Description Township 44 (N)(S) Range 1 (E)(W) Section 34

_____ Quarter of the _____ Quarter of the SE Quarter

3. Year Drilled 1982

4. Drilling Permit Number (and date, if known) _____

5. Type of Well Bored _____ Drilled X Other _____

6. Total Depth 77 Diameter (inches) 2

7. Formation clear of obstruction X Yes _____ No

8. DETAILS OF PLUGGING

Filled with 3/8" Bentonite Pellets (cement or other materials) from 77 to 57 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with Bentonite Chips from 57 to 0 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

9. CASING RECORD Upper 2 feet of casing removed X Yes _____ No

10. Date well was sealed Month May Day 2 Year 2006.

11. Licensed water well driller or other person approved by the Department performing well sealing.

K.G. Smith c/o SECOR International Inc. (Name) N/A (Complete License Number)

400 Bruns Lane (Address) Springfield (City) IL 62602 (State/ZIP)

This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act 85-0863. Disclosure of this information is mandatory. This form has been approved by the Forms Management Center. IL 482-0631

Printed by Authority of the State of Illinois
P.O. #530379 9.6M 4/00

4/2000

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
525 W. JEFFERSON ST.
SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

TYPE OR PRESS FIRMLY

RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT

[redacted]

1. ~~Ownership~~ (Name of Controlling Party) IPC/RotoRooter Superfund Site RD/RA Steering Committee

2. Well Location 136 Harrison Ave. (Address - Lot Number) Rockford (City) Winnebago (County)

General Description Township 44 (N)(S) Range 1 (E)(W) Section 34

_____ Quarter of the _____ Quarter of the SE Quarter

3. Year Drilled 1982

4. Drilling Permit Number (and date, if known) _____

5. Type of Well Bored _____ Drilled X Other _____

6. Total Depth 48 Diameter (inches) 2

7. Formation clear of obstruction X Yes _____ No

8. DETAILS OF PLUGGING

Filled with 3/8" Bentonite Pellets (cement or other materials) from 48 to 28 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with Bentonite Chips from 28 to 0 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

9. CASING RECORD Upper 2 feet of casing removed X Yes _____ No

10. Date well was sealed Month May Day 2 Year 2006.

11. Licensed water well driller or other person approved by the Department performing well sealing.

K.G. Smith c/o SECOR International Inc. (Name) N/A (Complete License Number)

400 Bruns Lane (Address) Springfield (City) IL 62602 (State/ZIP)

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SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

TYPE OR PRESS FIRMLY

RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT

[redacted]

1. Ownership (Name of Controlling Party) IPC/RotoRooter Superfund Site RD/RA Steering Committee

2. Well Location 2427 Seminary Street (Address - Lot Number) Rockford (City) Winnebago (County)

General Description Township 44 (N)(S) Range 1 (E)(W) Section 34

_____ Quarter of the _____ Quarter of the SE Quarter

3. Year Drilled 1982

4. Drilling Permit Number (and date, if known) _____

5. Type of Well Bored _____ Drilled X Other _____

6. Total Depth 51.5 Diameter (inches) 2

7. Formation clear of obstruction X Yes _____ No

8. DETAILS OF PLUGGING

Filled with 3/8" Bentonite Pellets (cement or other materials) from 51.5 to 31.5 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with Bentonite Chips from 31.5 to 0 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

9. CASING RECORD Upper 2 feet of casing removed X Yes _____ No

10. Date well was sealed Month May Day 2 Year 2006.

11. Licensed water well driller or other person approved by the Department performing well sealing.

K.G. Smith c/o SECOR International Inc. (Name) N/A (Complete License Number)

400 Bruns Lane (Address) Springfield (City) IL 62602 (State/ZIP)

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ILLINOIS DEPARTMENT OF PUBLIC HEALTH
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WATER WELL SEALING FORM

TYPE OR PRESS FIRMLY

RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT

[redacted]

1. ~~Ownership~~ (Name of Controlling Party) IPC/RotoRooter Superfund Site RD/RA Steering Committee

2. Well Location 2427 Seminary Street (Address - Lot Number) Rockford (City) Winnebago (County)

General Description Township 44 (N)(S) Range 1 (E)(W) Section 34

_____ Quarter of the _____ Quarter of the SE Quarter

3. Year Drilled 1982

4. Drilling Permit Number (and date, if known) _____

5. Type of Well Bored ____ Drilled X Other _____

6. Total Depth 89 Diameter (inches) 2

7. Formation clear of obstruction X Yes ____ No

8. DETAILS OF PLUGGING

Filled with 3/8" Bentonite Pellets (cement or other materials) from 89 to 69 ft.

Kind of plug _____ from ____ to ____ ft.

Filled with Bentonite Chips from 69 to 0 ft.

Kind of plug _____ from ____ to ____ ft.

Filled with _____ from ____ to ____ ft.

Kind of plug _____ from ____ to ____ ft.

9. CASING RECORD Upper 2 feet of casing removed X Yes ____ No

10. Date well was sealed Month May Day 2 Year 2006.

11. Licensed water well driller or other person approved by the Department performing well sealing.

K.G. Smith c/o SECOR International Inc. (Name) N/A (Complete License Number)

400 Bruns Lane (Address) Springfield (City) IL 62602 (State/ZIP)

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DIVISION OF ENVIRONMENTAL HEALTH
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SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

TYPE OR PRESS FIRMLY

RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT

[redacted]

1. Ownership (Name of Controlling Party) IPC/RotoRooter Superfund Site RD/RA Steering Committee

2. Well Location 2427 Seminary Street (Address - Lot Number) Rockford (City) Winnebago (County)

General Description Township 44 (N)(S) Range 1 (E)(W) Section 34

_____ Quarter of the _____ Quarter of the SE Quarter

3. Year Drilled 1982

4. Drilling Permit Number (and date, if known) _____

5. Type of Well Bored _____ Drilled X Other _____

6. Total Depth 49.5 Diameter (inches) 2

7. Formation clear of obstruction X Yes _____ No

8. DETAILS OF PLUGGING

Filled with 3/8" Bentonite Pellets (cement or other materials) from 49.5 to 29.5 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with Bentonite Chips from 29.5 to 0 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

9. CASING RECORD Upper 2 feet of casing removed X Yes _____ No

10. Date well was sealed Month May Day 2 Year 2006.

11. Licensed water well driller or other person approved by the Department performing well sealing.

K.G. Smith c/o SECOR International Inc. (Name) N/A (Complete License Number)

400 Bruns Lane (Address) Springfield (City) IL 62602 (State/ZIP)

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ILLINOIS DEPARTMENT OF PUBLIC HEALTH
DIVISION OF ENVIRONMENTAL HEALTH
525 W. JEFFERSON ST.
SPRINGFIELD, IL 62761

WATER WELL SEALING FORM

TYPE OR PRESS FIRMLY

RETURN ALL COPIES TO IDPH OR LOCAL HEALTH DEPARTMENT

[redacted]

1. Ownership (Name of Controlling Party) IPC/RotoRooter Superfund Site RD/RA Steering Committee

2. Well Location 2427 Seminary Street (Address - Lot Number) Rockford (City) Winnebago (County)

General Description Township 44 (N)(S) Range 1 (E)(W) Section 34

_____ Quarter of the _____ Quarter of the SE Quarter

3. Year Drilled 1982

4. Drilling Permit Number (and date, if known) _____

5. Type of Well Bored _____ Drilled X Other _____

6. Total Depth 69 Diameter (inches) 2

7. Formation clear of obstruction X Yes _____ No

8. DETAILS OF PLUGGING

Filled with 3/8" Bentonite Pellets (cement or other materials) from 69 to 49 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with Bentonite Chips from 49 to 0 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

9. CASING RECORD Upper 2 feet of casing removed X Yes _____ No

10. Date well was sealed Month May Day 2 Year 2006.

11. Licensed water well driller or other person approved by the Department performing well sealing.

K.G. Smith c/o SECOR International Inc. (Name) N/A (Complete License Number)

400 Bruns Lane (Address) Springfield (City) IL 62602 (State/ZIP)

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1. Ownership (Name of Controlling Party) IPC/RotoRooter Superfund Site RD/RA Steering Committee

2. Well Location 2427 Seminary Street (Address - Lot Number) Rockford (City) Winnebago (County)

General Description Township 44 (N)(S) Range 1 (E)(W) Section 34

_____ Quarter of the _____ Quarter of the SE Quarter

3. Year Drilled 1982

4. Drilling Permit Number (and date, if known) _____

5. Type of Well Bored _____ Drilled X Other _____

6. Total Depth 53' - 6" Diameter (inches) 2

7. Formation clear of obstruction X Yes _____ No

8. DETAILS OF PLUGGING

Filled with 3/8" Bentonite Pellets (cement or other materials) from 53 to 33 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with Bentonite Chips from 33 to 0 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

9. CASING RECORD Upper 2 feet of casing removed X Yes _____ No

10. Date well was sealed Month May Day 2 Year 2006.

11. Licensed water well driller or other person approved by the Department performing well sealing.

K.G. Smith c/o SECOR International Inc. (Name) N/A (Complete License Number)

400 Bruns Lane (Address) Springfield (City) IL 62602 (State/ZIP)

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WATER WELL SEALING FORM

TYPE OR PRESS FIRMLY

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[redacted]

1. ~~Ownership~~ (Name of Controlling Party) IPC/RotoRooter Superfund Site RD/RA Steering Committee

2. Well Location 2427 Seminary Street (Address - Lot Number) Rockford (City) Winnebago (County)

General Description Township 44 (N)(S) Range 1 (E)(W) Section 34

_____ Quarter of the _____ Quarter of the SE Quarter

3. Year Drilled 1982

4. Drilling Permit Number (and date, if known) _____

5. Type of Well Bored _____ Drilled X Other _____

6. Total Depth 91 ft Diameter (inches) 2

7. Formation clear of obstruction X Yes _____ No

8. DETAILS OF PLUGGING

Filled with 3/8" Bentonite Pellets (cement or other materials) from 91 to 71 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with Bentonite Chips from 71 to 0 ft.

Kind of plug _____ from _____ to _____ ft.

Filled with _____ from _____ to _____ ft.

Kind of plug _____ from _____ to _____ ft.

9. CASING RECORD Upper 2 feet of casing removed X Yes _____ No

10. Date well was sealed Month May Day 2 Year 2006.

11. Licensed water well driller or other person approved by the Department performing well sealing.

K.G. Smith c/o SECOR International Inc. (Name) N/A (Complete License Number)

400 Bruns Lane (Address) Springfield (City) IL 62602 (State/ZIP)

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P.O. #530379 9.6M 4/00

PROJECT: Interstate Pollution Control

WELL/BORING NO: MW-01

LOCATION: Rockford, IL

STARTED: 7/10/06 8:00 COMPLETED: 7/10/06 13:30 NORTHING: EASTING:

DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:

DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 52.20' TOC TOTAL DEPTH: 62.55' TOC

DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.

SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
-4									-4	
			Ground Surface							
1			Brn, dry, medium to coarse grained SAND, fill						1	Sonotubing, Concrete
			Brown, damp, medium to coarse grained SAND, fine to coarse gravel, cohesive, sub-rounded to rounded grain							
6			Dark brown, sandy CLAY, with some fine gravel, rounded, cohesive, fill						6	
			Dark brown, sandy CLAY, with more fine gravel, dry, cohesive							
11			Dark brown, medium to coarse grained SAND, with fine gravel, trace cobbles, sub-rounded to rounded, slightly cohesive						11	
16			Dark brown to light brown, medium grained SAND, with trace fine to coarse gravel, becoming lighter in color with depth						16	Quick Gel, Bentonite Grout
21			Dark brown, damp to moist, medium grained SAND, with fine to coarse gravel, cohesive						21	Two Inch I.D., Schedule 40 PVC Riser Piping
26			Brown, damp, medium to coarse grained SAND, fine to coarse gravel, cohesive, sub-rounded to rounded grains						26	

PROJECT: Interstate Pollution Control

WELL/BORING NO: MW-01

LOCATION: Rockford, IL

STARTED: 7/10/06 8:00 COMPLETED: 7/10/06 13:30 NORTHING: EASTING:

DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:

DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 52.20' TOC TOTAL DEPTH: 62.55' TOC

DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.

SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
35			Brown, damp, medium to coarse grained SAND, fine to coarse gravel, cohesive, sub-rounded to rounded grain, choppy drilling at 37' and 38.5', possible cobble or coarse gravel layer bed						35	Quick Gel, Bentonite Grout
40			Brown, damp, medium to coarse grained SAND, fine to coarse gravel, cohesive, sub-rounded to rounded grain						40	
45			Brown, damp, medium to coarse grained SAND, fine to coarse gravel, cohesive, sub-rounded to rounded grain						45	Primary Filter Pack, 40/60
50			Brown, damp, medium to coarse grained SAND, fine to coarse gravel, cohesive, sub-rounded to rounded grain, water at 51', small cobbles						50	Secondary Filter Pack
55			Brown, damp, medium to coarse grained SAND, fine to coarse gravel, cohesive, sub-rounded to rounded grain						55	Two Inch I.D., Schedule 40 PVC Screen, #10 Slot
60			End of Borehole						60	

PROJECT: Interstate Pollution Control

WELL/BORING NO: MW-02

LOCATION: Rockford, IL

STARTED: 7/10/06 14:15 COMPLETED: 7/11/06 11:50 NORTHING: EASTING:

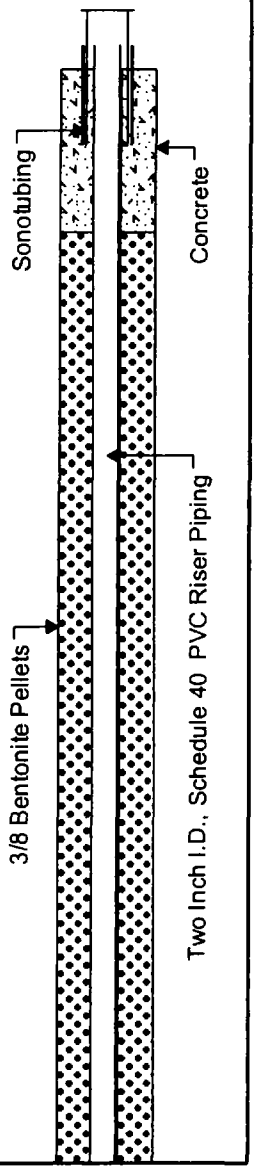
DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:

DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 50.73' TOC TOTAL DEPTH: 62.38' TOC

DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.

SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
-4									-4	
			Ground Surface							
1			Lt brown, medium to coarse grained SAND,fill						1	
			Black, sandy CLAY, fill							
6			Black, sandy CLAY with some fine gravel						6	
11			Black, sandy CLAY, damp, cohesive						11	
16									16	
21			Black, sandy CLAY with trace fine gravel						21	
26									26	



PROJECT: Interstate Pollution Control

WELL/BORING NO: MW-02

LOCATION: Rockford, IL

STARTED: 7/10/06 14:15 COMPLETED: 7/11/06 11:50 NORTHING: EASTING:

DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:

DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 50.73' TOC TOTAL DEPTH: 62.38' TOC

DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.

SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
35			Dk brown, medium grained SAND, slightly cohesive, dry, with sub rounded to rounded grains						35	3/8 Bentonite Pellets
40			Dk brown, medium grained SAND with fine to coarse gravel						40	
45									45	Primary Filter Pack, 40/60
50			Dk brown, medium grained SAND with considerable fine to coarse gravel, damp						50	Secondary Filter Pack
55									55	Two Inch I.D.. Schedule 40 PVC Screen, #10 Slot
60			End of Borehole						60	

PROJECT: Interstate Pollution Control
LOCATION: Rockford, IL

WELL/BORING NO: MW-03

STARTED: 7/11/06 12:50 COMPLETED: 7/12/06 9:50 NORTHING: EASTING:
DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:
DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 50.65' TOC TOTAL DEPTH: 65.65' TOC
DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.
SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
-4									-4	
			Ground Surface							
1			Brn, medium to coarse grained SAND, dry, fill						1	Sonotubing, Concrete
			Brown, medium grained SAND, dry with some fine gravel							
6			Brown, medium to coarse grained SAND, dry with some fine gravel, rounded, trace small cobbles						6	
11			Black, medium grained SAND with some coarse sand and fine gravel, metallic odor from cuttings						11	
16								147	16	3/8 Bentonite Pellets
21			Black, medium grained SAND with some coarse sand and fine gravel, rough drilling 22.5' possible cobble to coarse gravel bed					32	21	Two Inch I.D., Schedule 40 PVC Riser Piping
26			No cuttings returned						26	

PROJECT: Interstate Pollution Control
LOCATION: Rockford, IL

WELL/BORING NO: MW-03

STARTED: 7/11/06 12:50 COMPLETED: 7/12/06 9:50 | NORTHING: | EASTING:
DRILLING COMPANY: Transshield | GROUND ELEV: | M.P. ELEV:
DRILLIN EQUIPMENT Diedrich D-50 ATV | DEPTH TO WATER: 50.65' TOC | TOTAL DEPTH: 65.65' TOC
DRILLING METHOD: Hollow Stem Augers | BOREHOLE DIAMETER: 8" O.D.
SAMPLING EQUIPMENT: Cuttings | LOGGED BY: J. Olson | CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
35			Black, medium grained SAND with fine to coarse gravel, trace cobbles						35	3/8 Bentonite Pellets
40			Black, medium grained SAND with fine to coarse gravel, strong odor, oily residue on nitrile gloves						40	
45									45	
50			Black, wet, medium grained SAND with some fine gravel						50	Primary Filter Pack, 40/60
55									55	Secondary Filter Pack
60			End of Borehole						60	Two Inch I.D., Schedule 40 PVC Screen, #10 Slot

PROJECT: Interstate Pollution Control

WELL/BORING NO: MW-04

LOCATION: Rockford, IL

STARTED: 7/12/06 10:00 COMPLETED: 7/12/06 16:05 NORTHING: EASTING:

DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:

DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 48.22 TOC TOTAL DEPTH: 62.35 TOC

DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.

SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
-4									-4	
			Ground Surface							
1			Dk brown, dry, clayey SAND, cohesive, with bricks and concrete, with some fine gravel						1	Sonotubing, Concrete
6									6	
11			Black, sandy CLAY, damp, ribbons 1" to 2", soft						11	
16									16	3/8 Bentonite Pellets
21									21	Two Inch I.D., Schedule 40 PVC Riser Piping
26									26	

PROJECT: Interstate Pollution Control

WELL/BORING NO: MW-04

LOCATION: Rockford, IL

STARTED: 7/12/06 10:00 COMPLETED: 7/12/06 16:05 NORTHING: EASTING:

DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:

DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 48.22 TOC TOTAL DEPTH: 62.35 TOC

DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.

SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
35			Gray, fine to coarse GRAVEL, with some clayey sand						35	3/8 Bentonite Pellets
40			Dark gray, medium to coarse grained SAND, damp coehsive with some fine to coarse gravel						40	
45			Dk brown, medium grained SAND, dry, with trace fine gravel						45	
50			Dark brown, saturated, medium to coarse grained SAND						50	Primary Filter Pack, 40/60
55			Dark brown, saturated, medium to coarse grained SAND, trace fine gravel						55	Secondary Filter Pack
60			End of Borehole						60	Two Inch I.D., Schedule 40 PVC Screen, #10 Slot

PROJECT: Interstate Pollution Control

WELL/BORING NO: MW-05

LOCATION: Rockford, IL

STARTED: 7/13/06 13:30 COMPLETED: 7/14/06 11:30 NORTHING: EASTING:

DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:

DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 46.96 TOC TOTAL DEPTH: 62.73 TOC

DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.

SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
-4									-4	
			Ground Surface							
1			Dk brown, silty SAND, dry, some pebbles and bricks						1	Sonotubing, Concrete
6			Dk brown, silty SAND, with considerable fine gravel, debris						6	
11			Dk brown, fine to coarse GRAVEL, with some fines, sub-round to round						11	
16			Dk brown, medium grained SAND with some fine to coarse gravel						16	Quick Gel, Bentonite Grout
21			Lt brown, fine to medium SAND, with some fine gravel						21	Two Inch I.D., Schedule 40 PVC Riser Piping
26			Brown, fine to medium SAND, with some fine gravel						26	

PROJECT: Interstate Pollution Control

WELL/BORING NO: MW-05

LOCATION: Rockford, IL

STARTED: 7/13/06 13:30 COMPLETED: 7/14/06 11:30 NORTHING: EASTING:

DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:

DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 46.96 TOC TOTAL DEPTH: 62.73 TOC

DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.

SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
35			Brown, fine to medium SAND, with trace fine gravel, rough drilling at 36.5' possible gravel bed						35	Quick Gel, Bentonite Grout
40			Brown to dk brown, medium grained SAND, damp with some fine gravel						40	
45									45	
50									50	Primary Filter Pack, 40/60
55									55	Secondary Filter Pack
60			End of Borehole						60	Two Inch I.D., Schedule 40 PVC Screen, #10 Slot

PROJECT: Interstate Pollution Control
LOCATION: Rockford, IL

WELL/BORING NO: MW-06

STARTED: 7/13/06 7:50 COMPLETED: 7/13/06 13:15 NORTHING: EASTING:
DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:
DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 48.01 TOC TOTAL DEPTH: 62.72 TOC
DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.
SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
-4									-4	
			Ground Surface							
1			Lt brown, medium to coarse grained SAND, fill						1	Sonotubing, Concrete
			Dk brown, medium grained SAND with some silt, dry, uncohesive,							
6			Dk gray to black, silty SAND,considerable fines, with trace fine gravel, light petro odor						6	
11									11	
16			Dk gray to black, silty SAND,considerable fines, with trace fine gravel, sub rounded to rounded gravel						16	3/8 Bentonite Pellets
21								82	21	Two Inch I.D., Schedule 40 PVC Riser Piping
26									26	

PROJECT: Interstate Pollution Control

WELL/BORING NO: MW-06

LOCATION: Rockford, IL

STARTED: 7/13/06 7:50 COMPLETED: 7/13/06 13:15 NORTHING: EASTING:

DRILLING COMPANY: Transshield GROUND ELEV: M.P. ELEV:

DRILLIN EQUIPMENT Diedrich D-50 ATV DEPTH TO WATER: 48.01 TOC TOTAL DEPTH: 62.72 TOC

DRILLING METHOD: Hollow Stem Augers BOREHOLE DIAMETER: 8" O.D.

SAMPLING EQUIPMENT: Cuttings LOGGED BY: J. Olson CHECKED BY: K. Smith

Depth	GRAPHIC	USCS	LITHOLOGICAL DESCRIPTION	SAMPLE	TIME	RECOV. (in)	BLOW	PID (ppm)	DEPTH (ft)	WELL CONSTRUCTION
35			Black, moist, medium to coarse grained SAND, with some fine gravel, *cohesive*						35	Quick Gel, Bentonite Grout
40			No returns						40	
45									45	
50									50	Primary Filter Pack, 40/60
55			Dk brown, medium grained SAND, trace coarse grained sand, saturated						55	Secondary Filter Pack
60			End of Borehole						60	Two Inch I.D., Schedule 40 PVC Screen, #10 Slot